

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application:

**LISTING OF CLAIMS:**

1. (currently amended) An isolated nucleotide sequence according to SEQ ID NO:3 or a functional fragment thereof, ~~or a sequence that hybridizes thereto.~~
2. (original) An isolated polypeptide sequence according to SEQ ID NO:4 or a functional fragment thereof.
3. (original) The use of at least one functional fragment of a nucleotide according to SEQ ID NO:1 or a peptide according to SEQ ID NO:2 for preparing a pharmaceutical composition for the treatment of a gene disorder marked by the presence of a mutation at a position corresponding to position 298 of SEQ ID NO:3.
4. (currently amended) ~~An~~ A plasmid, comprising an isolated nucleic acid molecule according to Claim 1 ~~in the form of a plasmid.~~
5. (currently amended) A vector comprising ~~the~~ a nucleic acid according to Claim 1 or a nucleic acid encoding ~~the~~ a polypeptide of according to Claim 2.
6. (currently amended) A vector according to Claim 5, wherein the vector is a virus, ~~such as a DNA virus or a retrovirus.~~
7. (currently amended) A vector according to Claim 6, wherein the vector is selected from the group consisting of adeno-associated virus, adenovirus, DNA viruses, herpesvirus, Moloney Murine Leukemia Virus (MoMLV), Human Immunodeficiency Virus (HIV-1), and Simian Immunodeficiency Virus (SIV).
8. (currently amended) A host cell transformed or transfected with a vector according to Claim 5 any one of Claims 5-7, ~~such as a eukaryotic cell, a COS cell, a prokaryotic cell, a 293EBNA cell, or an insect cell.~~

9. (original) A host cell transformed or transfected with a vector comprising a nucleotide sequence according to Claim 1, operatively linked to a promoter, such that said host cell expresses a mutated NGFB protein.

10. (currently amended) A molecular probe for the indication a genetic defect, comprising:  
a nucleotide sequence according to SEQ ID NO:3 or a sequence which hybridises to said nucleotide sequence under stringent conditions; and  
a label for detecting the presence of said sequence, ~~such as a radioactive label.~~

11. (original) A method of screening a patient for a genetic defect, comprising:  
obtaining a sample of genetic material from said patient, and  
identifying the nucleotide present at a position corresponding to position 298 of SEQ ID NO:3,  
wherein said patient has a genetic defect if a nucleotide other than cytosine is identified.

12. (original) A method for detecting the presence of a genetic defect in a biological sample, comprising:  
contacting the biological sample with a nucleic acid molecule comprising a complement to SEQ ID NO:3 as a probe in a nucleic acid hybridization assay; and  
detecting whether the nucleic acid molecule has undergone hybridization,  
wherein hybridization indicates the presence of a genetic defect in the biological sample.

13. (currently amended) A transgenic non-human animal comprising a modified nucleotide at a position corresponding to position 298 of SEQ ID NO:3, ~~such as a thymine.~~

14. (currently amended) A transgenic animal according to Claim 13, wherein the animal is a mammal, ~~such as a rodent.~~

15. (currently amended) A transgenic non-human animal comprising one or more cells which express a sequence according to SEQ ID NO:3.

16. (currently amended) A method of evaluating the ability of a potential therapy to treat or cure a genetic disorder, comprising:  
administering the potential therapy to a transgenic animal according to Claim 13 ~~any one of Claims 13-14~~; and  
evaluating a pain response in said animal,  
wherein an improved pain response in said animal as compared to untreated similarly-situated transgenic animals indicates that the potential therapy is able to treat or cure a genetic disorder.

17. (new) A host cell according to Claim 8, wherein the cell is selected from the group consisting of: a eukaryotic cell, a COS cell, a prokaryotic cell, a 293EBNA cell, or an insect cell.

18. (new) A transgenic animal according to Claim 14, wherein the animal is a rodent.